NAVAIR AIR*Speed* Overview Brief

AIR*Speed* Is….

The management philosophy of continuous process improvement for the entire Naval Aviation Enterprise

Endorsed by:

- VADM Zortman, Commander, Naval Air Forces

- VADM Massenburg, Commander, NAVAIR

- RADM Kilcline, Director of Air Warfare

What Is NAVAIR AIR*Speed*?

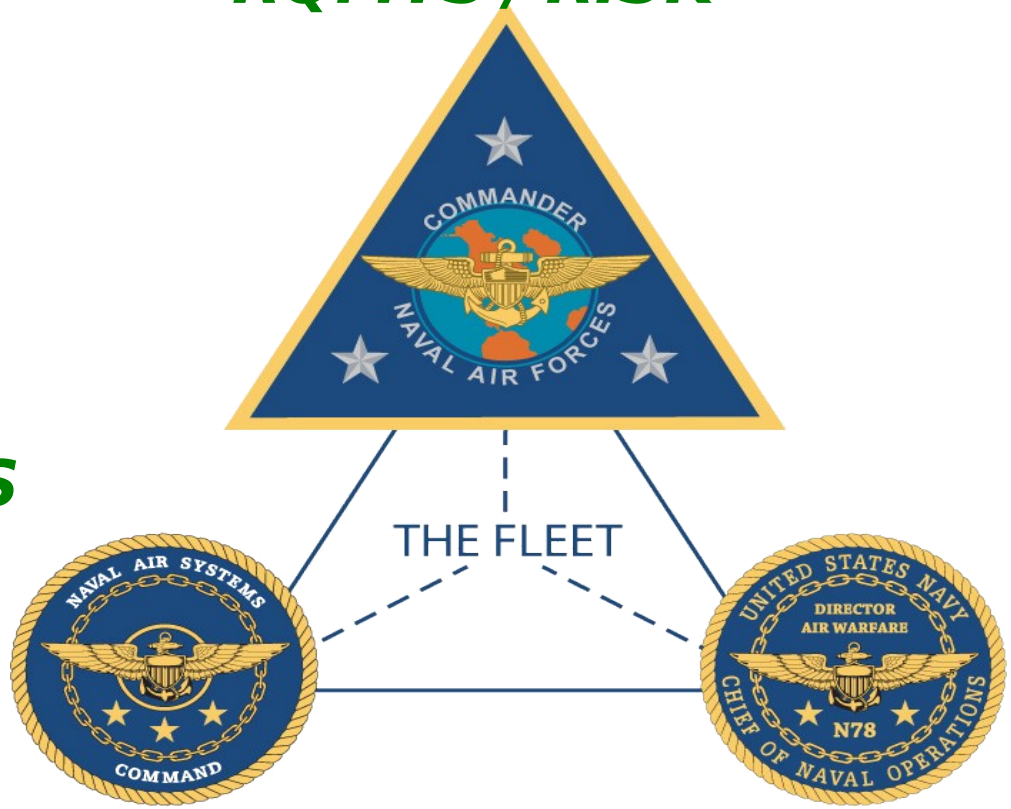
NAVAIR AIR*Speed* Is Our Strategy for:

- **Reducing the Cost of Doing Business**
- **Improving Productivity**
- **Increasing customer satisfaction**

NAVAL AVIATION
NAE

Naval Aviation Enterprise Leadership

CEO
CHIEF EXECUTIVE OFFICER
RQMTS / RISK



PROVIDERS
COO
CHIEF OPERATING OFFICER

SPONSORS
CFO
CHIEF FINANCIAL OFFICER

Naval Aviation Enterprise

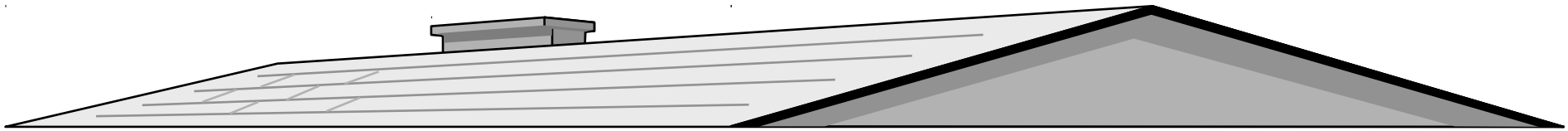
- **The NAE will operate with a:**
  - Single Process Owner
  - Single fleet-driven metric: aircraft ready for tasking at reduced cost
- **NAE's Three Main Focus Areas:**
  - Readiness: current, tomorrow, and future
  - Human Capital Strategy
  - Cost Management

READINESS AND THE NAE

Current Readiness:

- The process efficiencies we're doing today align to Sea Enterprise and **<u>are critical to pay for tomorrow's readiness and our future readiness</u>**
  - NAVRIIP
    - **Type / Model / Series Teams**
  - Enterprise AIR*Speed*
  - Depot AIR*Speed*
  - NAVAIR AIR*Speed*
  - Integrating O-I-D Level Maintenance / Fleet Readiness Centers

Naval Aviation Enterprise AIR*Speed*



Depot AIR*Speed*

(Lean, Six Sigma, TOC)

- ***Depot production processes***
- ***Led by COs/AIR-6.0***
- ***Rollout to 3 sites***

Enterprise AIR*Speed*

(Lean, Six Sigma, TOC)

- ***Fleet-Wide Repair Sites & Processes***
- ***Led by O-6 ESC***
- ***O-I-D + Supply Chain***
- ***Links to NAVRIIP***
- ***AIR-3.3 Coord Office***

NAVAIR AIR*Speed*

(Lean, Six Sigma, TOC)

- ***Corporate/Competency Processes and Other Productivity Initiatives***
- ***Led by AAG/EDB Guidance***
- ***Enabled by Core Team***
- ***Links with Enterprise & Depot AIRSpeed***

- **There are three AIR*SPEED* programs with One Goal and One Metric:**
  - **Depot AIR*SPEED* which began in 1999**
  - **Enterprise AIR*SPEED* which began in 2003**
  - **NAVAIR AIR*SPEED* which began in 2004**
- **All three drive productivity through process improvement using industry-proven tools, and help establish a self-sustaining culture of continuous improvement.**

NAVAIR

AIR*Speed* History

- **The purpose of all three AIR*Speed* programs is to improve the processes germane to their respective organizations**

- **This is accomplished by using a common set of industry-proven tools:**
  - **Lean**
  - **Six Sigma**
  - **Theory of Constraints**

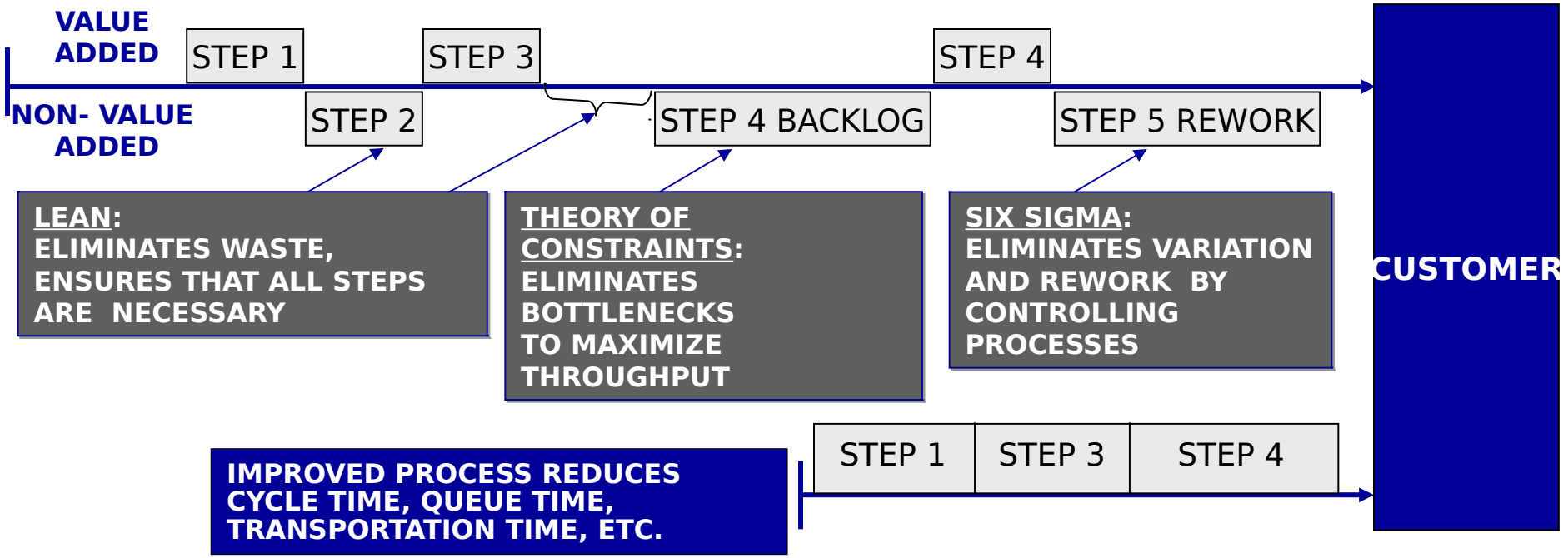
AIR*Speed* Process Tools

- **Lean:** **Eliminates waste and streamlines the number of steps in workflow processes.**

- **Six Sigma:** **Uses statistical analysis to eliminate variation between what we deliver and what the customer expects (therefore reduces time spent on rework).**

- **Theory of Constraints (TOC):** **Eliminates process constraints so the workforce can focus on efficient operations.**

NAVAIR AIR*Speed* Uses These Tools To Enable Productivity Improvement



Depot AIR*Speed*

- **Depot AIR*Speed* improves the organization, throughput and efficiency of the Naval Aviation Depots.**

- **The following slide highlights one example of Depot AIR*Speed* success.**

Theory of Constraints

H-46 Improved Throughput
Cherry Point Depot

H-46 WORK-IN-PROCESS *BEFORE*

- TURNAROUND TIME = 200+ DAYS
- AIRCRAFT IN WORK = 28

MANAGEABLE WORK-IN-PROCESS *AFTER*

- TURNAROUND TIME = 135 DAYS
- AIRCRAFT IN WORK = 14

Increased Throughput = Improved Readiness

NAVAIR

Other Depot Examples

Product	Turn Around Time Baseline (Days)	Turn Around Time March 2005 (Days)
F/A-18	192	136
F/A-18 Canopy (Night Attack)	94	53
F/A-18 Main Landing Gear	90	22
F404 Engine	85	42
F414 Engine	65	32
H-1 Helo (USMC)	350	114
H-1 Helo (USAF)	300	121
T58 Engine Major Repair	214	135

Enterprise AIR*Speed*

- **Enterprise AIR*Speed* improves the throughput and efficiency of Organizational-Level, Intermediate-Level and Depot-Level aircraft and systems maintenance.**

- **The following slide highlights one example of Enterprise AIR*Speed* success.**

Lean Six Sigma Deployment

T700 Power Turbine, AIMD North Island

July 2004

Before

After

- **Reduced turnaround time from 23 days to 3 days**
- **Improved productivity by 62%**
- **Reduced floor space by 54%**

NAVAIR Success Stories

AIR-4.1 Class Desk Weekly Report

Requirement

- Top issues by priority
- Multiple contact information
- Upcoming program events
- Detail risk descriptions

AIRSpeed Project

- Black Belt investigated requirement (180 surveys)
- Discovered duplication of effort with other reports
- No feedback to Class Desk Engineers being provided

E2/C2 Configuration Management

Problem

- **Continual updates and modifications**
- **Loss of outside source for proprietary configuration tracking capability**
- **Fleet maintained separate user-generated reports which were different than what PMA-231 was using**
- **Concern over redundancy, conflicting data and wasted resources**

AIRSpeed Project Team (Logistics, Engineering, Configuration Management)

- **Collected data and reviewed minimum Configuration Status Accounting requirements**
- **Cancelled new database system in development and realized a near term savings of $69K and $621K across the FYDYP**

NAVAIR AIR*Speed* Success Story: BFMC

- **Participants:** AIR 7.8's Business Financial Manager and AIR 10.0 (Comptroller).
- **Issue:** It took too long to approve Reimbursable Funding Documents.
- **Solution:** Employ the principles of Lean Six Sigma to map the process, identify and eliminate the non-value added steps in the process, and institutionalize the changes.

Lean Six Sigma Principles Applied

- **Make the process flow visible.**
- **Analyze the flow.**
- **Organize around the flow.**
- **Make the flow continuous: remove barriers, remove waste.**
- **Manage the flow visually.**
- **Measure what matters to the customers.**
- ***Lean is hard on process, soft on people.***

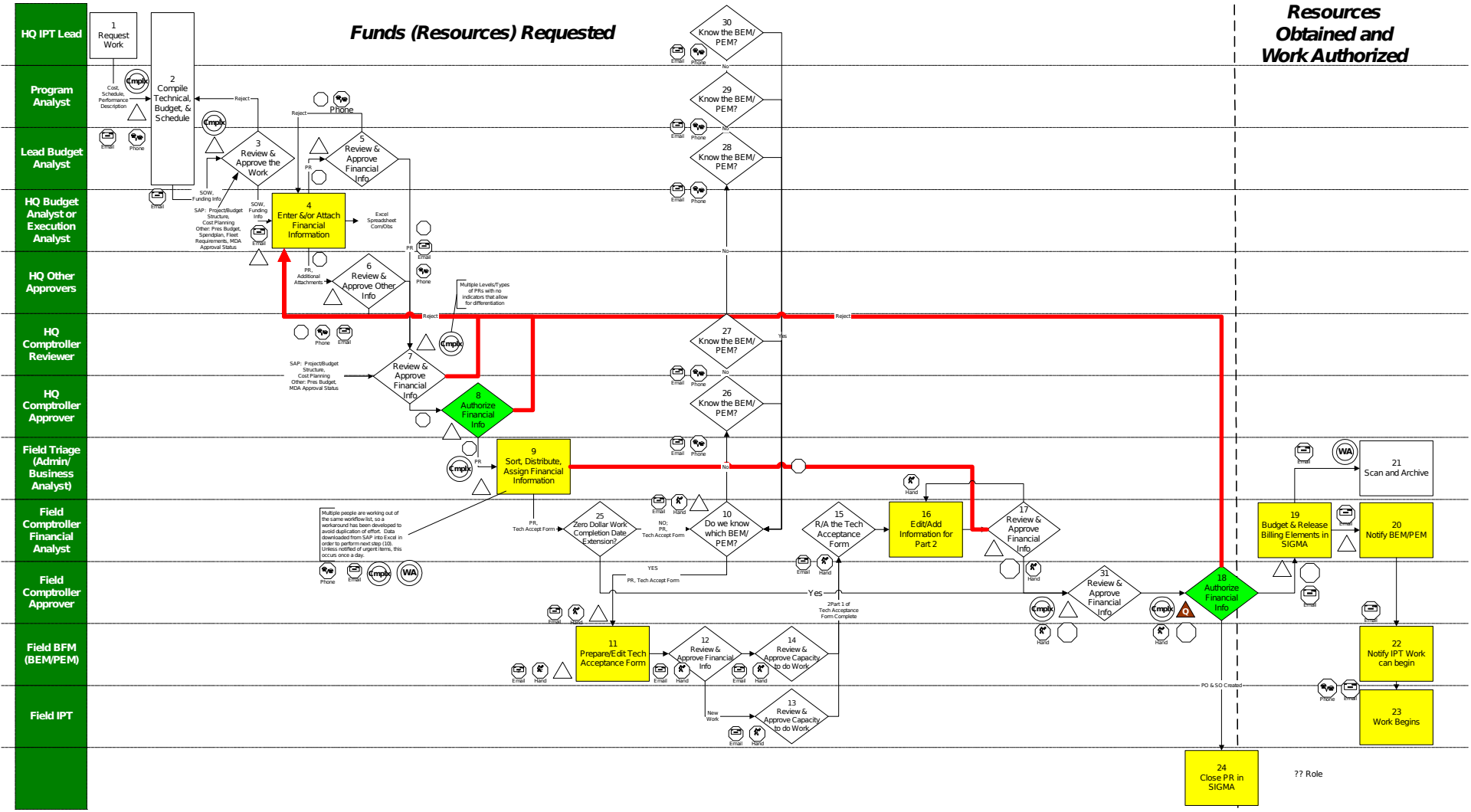
Customer ◆ Value ◆ Flow

Business Financial Management Community (BFMC) Productivity Improvement Project

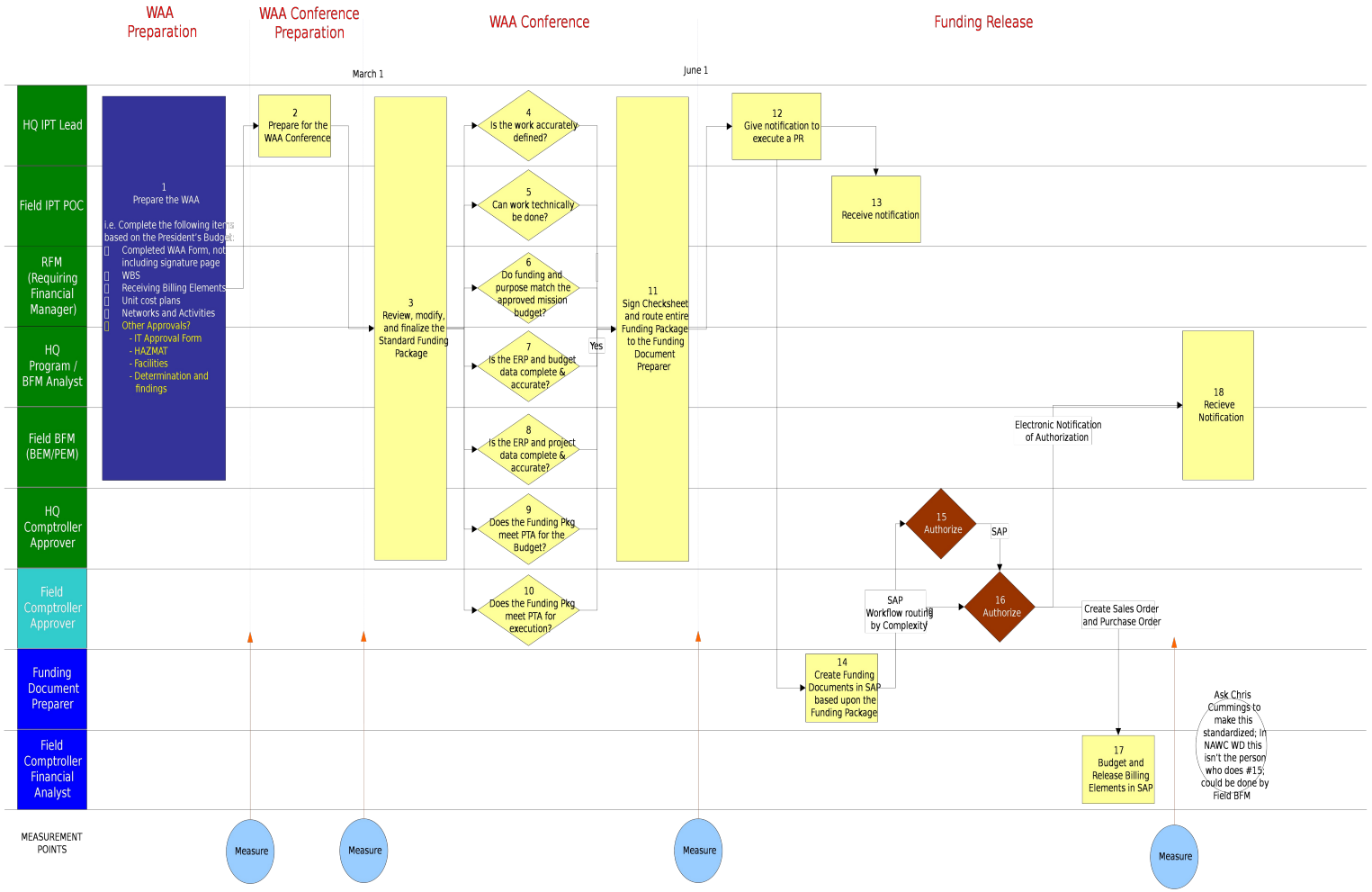
Lean Six Sigma Principles (DMAIC) Applied:

- **Define:** Walk the process and map the current state.
- **Measure:** Identify and collect data.
- **Analyze:** Assess the process and identify improvements.
- **Improve:** Define the essential parts of the process and create the future state map.
- **Control:** Document improvements, turn results into dollars, monitor the process to identify “out of control” performance.

Current State Map
Reimbursable Funding Document Flow


HQ IPT Lead
Program Analyst
Lead Budget Analyst
HQ Budget Analyst or Execution Analyst
HQ Other Approvers
HQ Comptroller Reviewer
HQ Comptroller Approver
Field Triage (Admin/ Business Analyst)
Field Comptroller Financial Analyst
Field Comptroller Approver
Field BFM (BEM/PEM)
Field IPT
Funds (Resources) Requested
Resources Obtained and Work Authorized
1 Request Work
2 Compile Technical, Budget, & Schedule
3 Review & Approve the Work
4 Enter &/or Attach Financial Information
5 Review & Approve Financial Info
6 Review & Approve Other Info
7 Review & Approve Financial Info
8 Authorize Financial Info
9 Sort, Distribute, Assign Financial Information
10 Do we know which BEM/ PEM?
11 Prepare/Edit Tech Acceptance Form
12 Review & Approve Financial Info
13 Review & Approve Capacity to do Work
14 Review & Approve Capacity to do Work
15 R/A the Tech Acceptance Form
16 Edit/Add Information for Part 2
17 Review & Approve Financial Info
18 Authorize Financial Info
19 Budget & Release Billing Elements in SIGMA
20 Notify BEM/PEM
21 Scan and Archive
22 Notify IPT Work can begin
23 Work Begins
24 Close PR in SIGMA
25 Zero Dollar Work Completion Date Extension?
26 Know the BEM/ PEM?
27 Know the BEM/ PEM?
28 Know the BEM/ PEM?
29 Know the BEM/ PEM?
30 Know the BEM/ PEM?
31 Review & Approve Financial Info
?? Role

Lean Solution
Reimbursable Funding Document Process

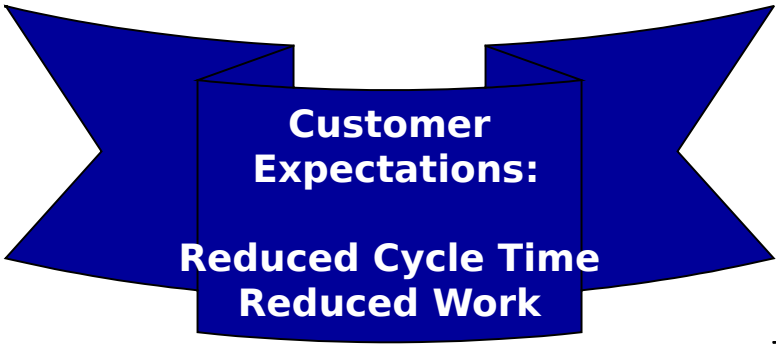

WAA Preparation
WAA Conference Preparation
WAA Conference
Funding Release
March 1
June 1
HQ IPT Lead
Field IPT POC
RFM (Requiring Financial Manager)
HQ Program / BFM Analyst
Field BFM (BEM/PEM)
HQ Comptroller Approver
Field Comptroller Approver
Funding Document Preparer
Field Comptroller Financial Analyst
1 Prepare the WAA
i.e. Complete the following items based on the President's Budget:
Completed WAA Form, not including signature page
WBS
Receiving Billing Elements
Unit cost plans
Networks and Activities
Other Approvals?
- IT Approval Form
- HAZMAT
- Facilities
- Determination and findings
2 Prepare for the WAA Conference
3 Review, modify, and finalize the Standard Funding Package
4 Is the work accurately defined?
5 Can work technically be done?
6 Do funding and purpose match the approved mission budget?
7 Is the ERP and budget data complete & accurate?
8 Is the ERP and project data complete & accurate?
9 Does the Funding Pkg meet PTA for the Budget?
10 Does the Funding Pkg meet PTA for execution?
Yes
11 Sign Checksheet and route entire Funding Package to the Funding Document Preparer
12 Give notification to execute a PR
13 Receive notification
14 Create Funding Documents in SAP based upon the Funding Package
15 Authorize
SAP
SAP Workflow routing by Complexity
16 Authorize
Electronic Notification of Authorization
18 Recieve Notification
Create Sales Order and Purchase Order
17 Budget and Release Billing Elements in SAP
Ask Chris Cummings to make this standardized; in NAWC WD this isn't the person who does #15; could be done by Field BFM
MEASUREMENT POINTS
Measure
Measure
Measure
Measure

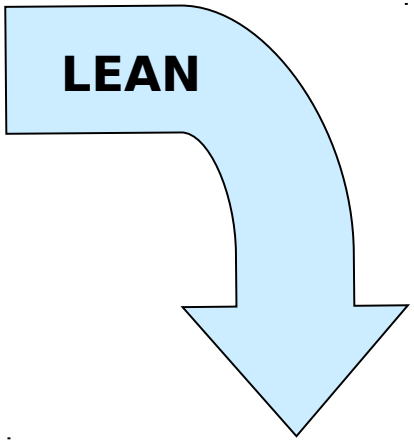
Six Sigma Tools Used to Standardize and Streamline Pro

AIR 7.8 / 10.0 Lean Six Sigma Results

Current State Analysis

- 30-plus steps
- 12 roles
- 16 queues
- 8 workarounds
- Multiple hard copies
- 12 review and approval steps
- *An average of 28 days processing time*





Future State Solution

- 18 steps
- 9 roles
- 4 queues
- No workarounds or hard copies
- 3 review and approval steps
- *An average of less than 4 days processing time*

Justification and Approval (J&A)

Problem

- **J&A is a document used to Limit Competition or go Sole Source**
- **NAVAIR instruction interpreted in a variety of different ways resulting in complexity and poor quality**

AIRSpeed Project

- **Kaizen Event conducted by project team (AIR 1.0, 2.0, 11.0, PMA-275, Navy Reservist)**
- **Value Stream Maps created for "existing" and "future state" to help identify opportunities for improvement**
- **New template created for the instruction**
- **Simplified process by reducing the number of steps by 50% (26 steps to 13 steps) and reducing the maximum cycle times (129 days to 41 days)**

Defense Message System

Problem

- **Nine different DMS facilities**
- **Legacy networks, disparate systems, processes, software and hardware**
- **Required courier, hand carry or guard mail messages to the Message Processing Center (MPC)**

AIRSpeed Project

- **Created Defense Message System Center of Excellence (DMS COE)**
- **Uses existing and developing technology**
- **Allows users to prepare messages for release and forward those messages via the NMCI Exchange email system to the DMS COE for processing**
- **Project completed in one year**

NAVAIR AIR*Speed* is:

- an extension of the proven success of Depot and Enterprise AIR*Speed*
- driven by the need to fundamentally change and improve the way we do business at every level: HQ, Competency, PEO, PMA, IPT and the Business Unit
- the way we will become more cost-efficient, while still meeting the needs of the Warfighter
- one visible way we support NAVAIR values.

NAVAIR Values

What do we believe in? What do we provide?

- **Dominant maritime combat power (for aviation at sea)**
- **Cost-wise readiness (more productivity at less cost)**
- **Affordability (more product at less cost)**
- **Integrated-Consolidated Research, Development, Test and Evaluation, and Acquisition Support (Response Cycle Time Reduction).**

NAVAIR Values and AIR*Speed* are:

- **our strategy for reducing the cost of doing business, improving productivity and increasing customer satisfaction;**

- **part of a cultural transformation that will help our workforce become more efficient and more productive, while facilitating the cost-wise decisions that will help us deliver Fleet aircraft ready for tasking at reduced cost.**

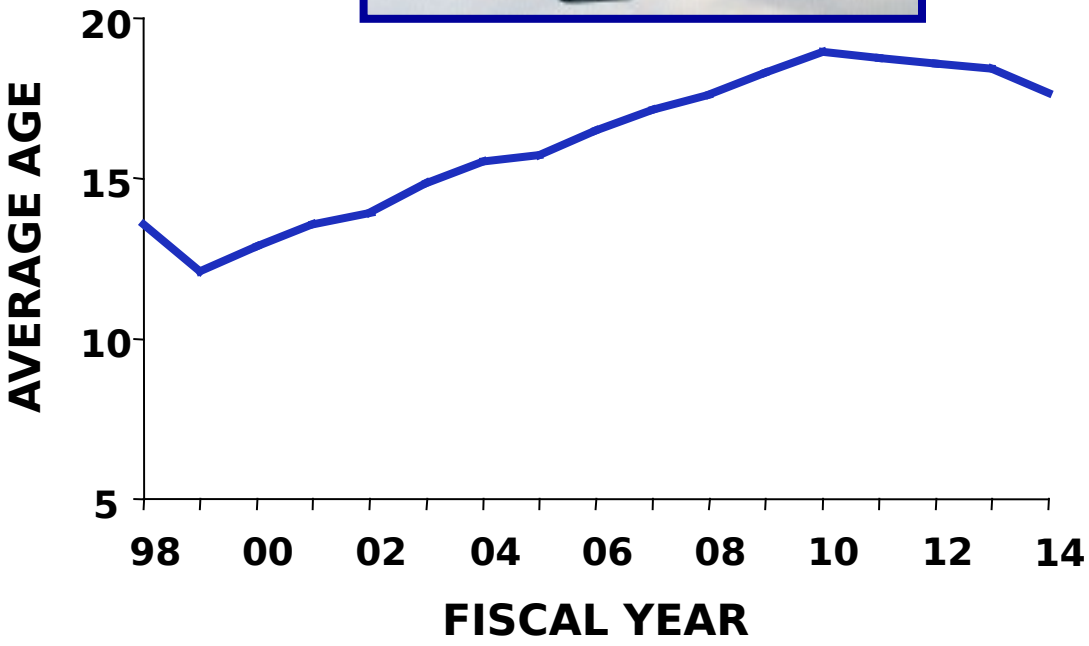
Why NAVAIR AIR*Speed*?

- **Why should we implement a process improvement program like NAVAIR AIR*Speed?***
- **There are two reasons. First:**

Aging Navy Systems

20-year-old aircraft are very costly to maintain . . .

so we need to buy new aircraft



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But . . . we cannot afford to buy the number of new aircraft we need

AIRCRAFT

	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
PB96	44	57	79	103	133								
PB97	40	56	83	114	124								
PB98		51	71	125	144	150	164						
PB99			71	119	143	154	164						
PB00				105	140	163	183	187	201				
PB01					128	130	173	177	187				
PB02						88	92	115	119	143	155		
PB03							90	85	105	147	193		
PB04								93	100	133	191	254	302

ACTUAL A/C

- **The plan**: buy 201 aircraft in FY05.
- **The reality**: we will buy 100 (or fewer) aircraft in FY05.
- **The problem**: we need to buy an average of 200 new aircraft each year to maintain our average aircraft age.

Why NAVAIR AIR*Speed*?

- **The second reason is that it helps us improve our performance as measured by our single Fleet-driven metric:**

Fleet Aircraft Ready for Tasking at Reduced Cost

So . . . how is AIR*Speed* different from past management initiatives?

- **Total Quality Management, Business Process Reengineering and other initiatives were not structured to fully permeate the organization, but they did give us a firm background in Process Mapping.**

- **This time we are creating an infrastructure of trained NAVAIR subject matter experts who fully understand the tools and methodologies they will employ.**

- **This time NAVAIR AIR*Speed* is focused on a single, Fleet-driven metric: Delivering Fleet Aircraft Ready for Tasking at Reduced Cost**

Other Differences

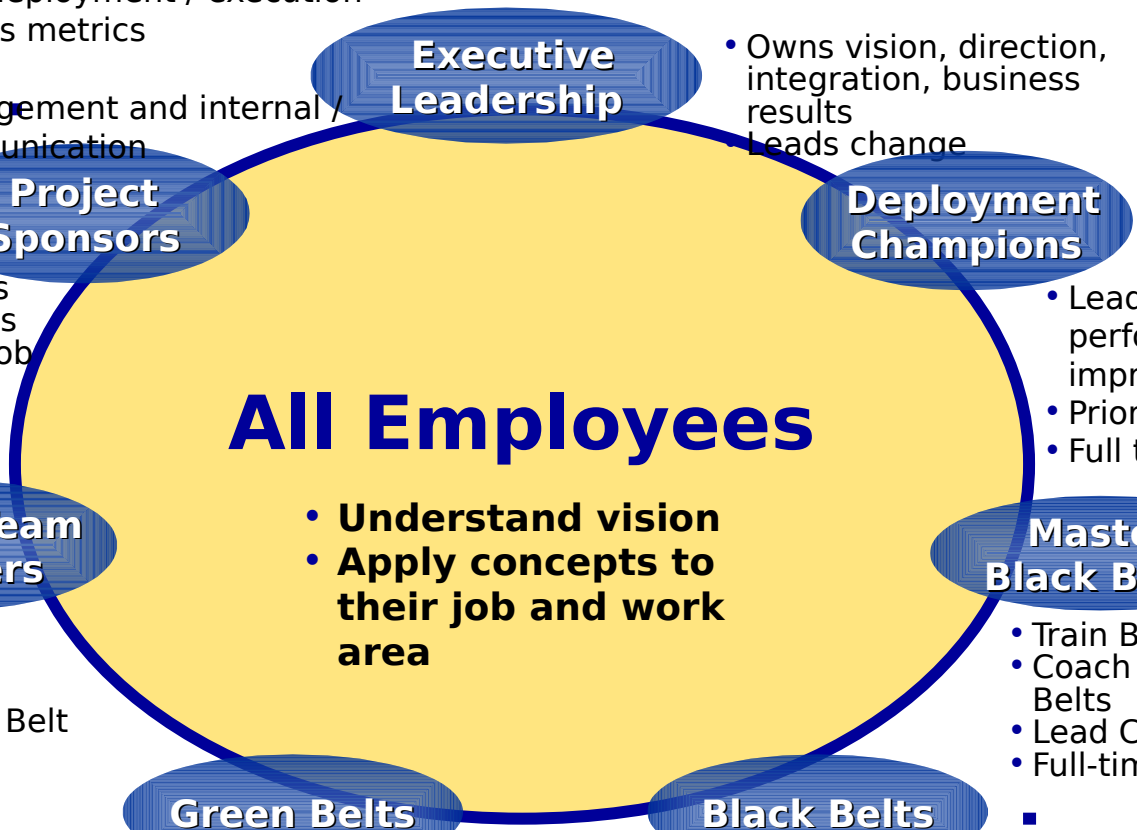
- **Lean Six Sigma methods provide the productivity improvement tools that the "cultural infrastructure" will deploy across the entire NAVAIR organization.**

- **We are initially training up to 200 Black Belts by end of 2005. By October 2006, 50% of the workforce will receive NAVAIR AIR*Speed* training.**

NAVAIR AIR*Speed* Implementation

- **NAVAIR AIR*Speed* will be used to improve our core processes:**
  - **Acquisition Management**
  - **Technology, R&D, Hardware/Software Products/Design**
  - **In-service Engineering & Logistical Support**
  - **Test and Evaluation**
  - **Repair Modifications**
  - **Corporate Operations.**
- **NAVAIR is training a cadre of employees to implement NAVAIR AIR*Speed*.**
- **Here's how we're doing it . . .**

NAVAIR AIR*Speed* Roles



AIR*Speed* Core Team

- Enables successful deployment / execution
- Develops and reports metrics
- Coordinates training
- Leads change management and internal / external cross-communication

Executive Leadership

- Owns vision, direction, integration, business results
- Leads change

Project Sponsors

- Project owner
- Implements solutions
- Owns financial results
- Part time as part of job
- Develops Project Charter

Deployment Champions

- Lead organizational performance improvement
- Prioritize projects
- Full time assignment

Project Team Members

- Provide project-specific support
- Can be Yellow or Green Belt and includes Financial Representation
- Part time on projects

Master Black Belts

- Train Black Belts/Green Belts
- Coach Black Belts/Green Belts
- Lead Complex/Large projects
- Full-time position

Green Belts

- Participate on Black Belt teams and/or lead projects
- Part time on projects

Black Belts

- Execute AIR*Speed* projects
- Train and coach Project Teams
- Full-time assignment

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NAVAIR AIR*Speed* Structure

LEVEL 1 PEOs, Competency Managers and NAWC Commanders accountable for the vision, direction, integration and results

One from each PEO, Competency and NAWC charged with implementing NAVAIR AIRSpeed

Train and coach Black Belts and Green Belts, and lead projects (full-time position)

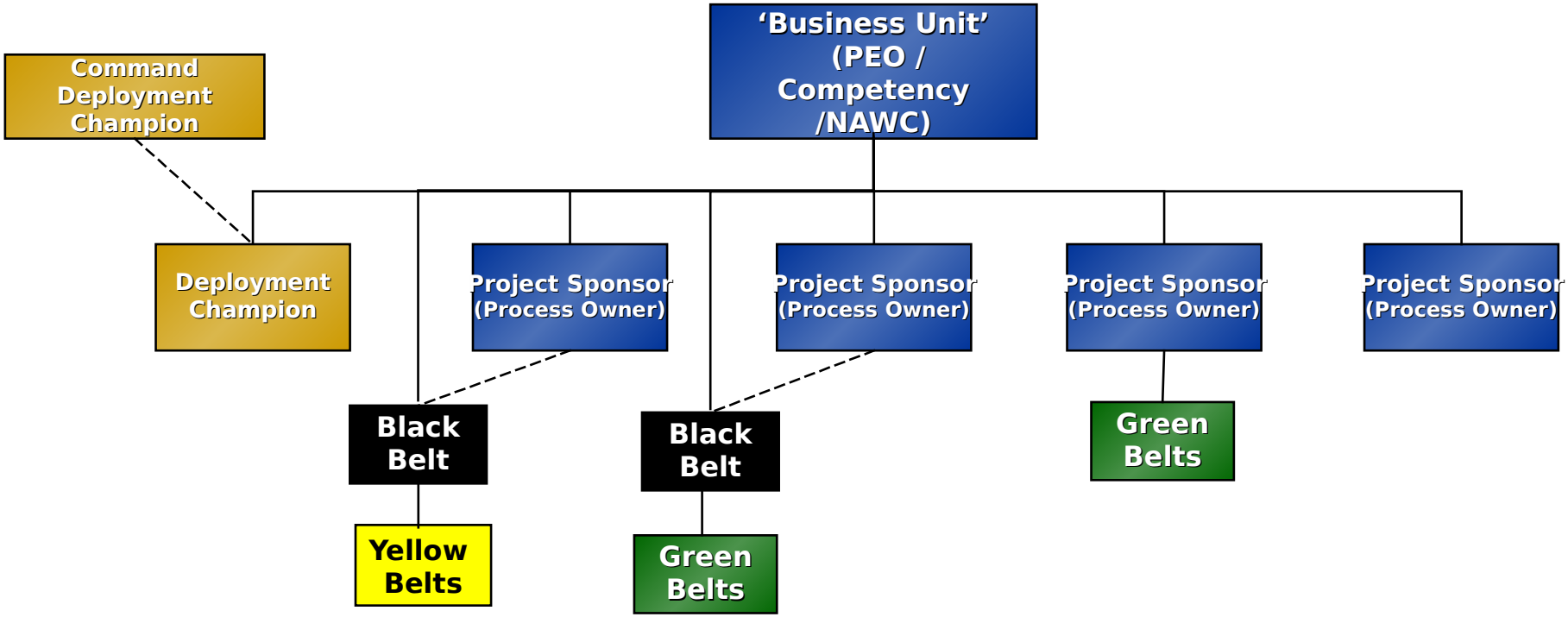
High-performing, strategic thinkers selected by Level 1s to lead projects, train and coach project teams (full-time position)

NAVAIR

NAVAIR AIR*Speed* Structure

Green Belts	Participate on Black Belt teams and/or lead projects (part-time position)
Project Team Members	Provide project-specific support. Can be a Yellow or Green Belt (part-time position)
Project Sponsors	Process owners who implement solutions, provide financial results to Level 1s, institutionalize the process (part-time position)

Deployment Champions, Project Sponsors and Black Belts Report to the 'Business Unit' Management



- PEOs / Competencies / NAWC own resources and accountability for results
- Command provides expertise for deployment, training, mentoring, tracking, best practices

NAVAIR

AIR*SPEED* Training Status (11-1-2005)

NUMBER OF TRAINED BLACK BELTS

CIVILIAN	*174*	**TOTAL**	**175**
MILITARY	*1*	**GOAL**	**200**

NUMBER OF TRAINED GREEN BELTS

CIVILIAN	*181*	**TOTAL**	**184**
MILITARY	*3*	**GOAL**	**400**

NUMBER OF TRAINED YELLOW BELTS

		TOTAL	**1825**

NUMBER OF PROJECT SPONSORS

Black Belt Training Program

- **World-class training program designed to "train the trainers" and provide critical project leadership**

- **1-3% of the civilian and military NAVAIR workforce will be trained as Black Belts (BBs)**
  - Top NAVAIR performers
  - Training spans 4-5 weeks over a 4-5 month period
  - Assignment spans 18-24 months, after which BB may return to previous position, be reassigned or continue on as a Master BB
  - BB service is a career-enhancing assignment.

Expectations for NAVAIR AIR*Speed*

- **Personnel**
  - No layoffs if existing work is eliminated.
  - Personnel will be retrained, if necessary, and redeployed to support other areas of the organization.

- **We will use *actual data* to make decisions.**
  - This implies observation and measurement of work to establish baselines.
  - Meaningful metrics will be applied to measure our progress.

Expected Results

- **Eliminate non-value added activities.**
- **Reduce cycle times.**
- **Improve quality and productivity.**
- **Develop a workforce with the right skills, focused on the right workload, at the right time, at the right cost, to deliver the right capability to the Warfighter.**
- **Identify $47 million dollars in Type 1 saving by the end of FY06**

NAVAIR AIR*Speed* Takeaways

- We must use our resources more efficiently.
- NAVAIR AIR*Speed* is a long-term process improvement initiative that is here to stay.
- NAVAIR AIR*Speed* will make your job better, easier, less frustrating.
- Your input is vital to making NAVAIR a better organization and place to work.
- NAVAIR AIR*Speed* tools and techniques will contribute to your professional development.

www.navair.navy.mil/NAVAIRAIRSPEED

Address http://www.navair.navy.mil/navairairspeed/index.cfm

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:: Feedback

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Vice Admiral Walter Massenburg speaks with assembled artisans at NADEP Cherry Point. Photo by Mike Barton

Part of NAVAIR's solution to reduce the cost of doing business is NAVAIR AIRSpeed. NAVAIR AIRSpeed addresses the needs of the future, and it provides a proven set of business tools to achieve cost-wise readiness."

Vice Admiral Walter Massenburg
NAVAIR Commander

Message from NAVAIR AIRSpeed Champion

Some of you may be wondering, "What is all this talk about AIRSpeed? What exactly is AIRSpeed anyway?"

The term AIRSpeed means how fast an aircraft flies in relation to the air in which it is flying. The air we're flying in, a transformational Navy, is congested with demands for newer and faster technologies.

To keep up, we've got to change the way we get our work done. Our business needs to move faster and more efficiently to meet the demands of today's Warfighter.

AIRSpeed isn't just another suggested process that NAVAIR is trying out. We've been using this tailored set of best business practices in our depots. Encouraged by the results, we are convinced that AIRSpeed is a necessary set of tools that each of us needs to master so we can do our jobs better.

It's my responsibility to make sure everyone at NAVAIR understands these tools and gets the training they need on how to use them. This web site is the first step toward that goal.

Please read the definitions on this site to understand the variations of AIRSpeed currently being implemented across the Naval Aviation Enterprise. Also, check back to this site regularly for updates and new information on how you can learn more.

Thanks for your time and dedicated service.

Rear Admiral Walter Skinner
NAVAIR AIRSpeed Champion

This is an official U.S. Navy web site

Naval Air Systems Command

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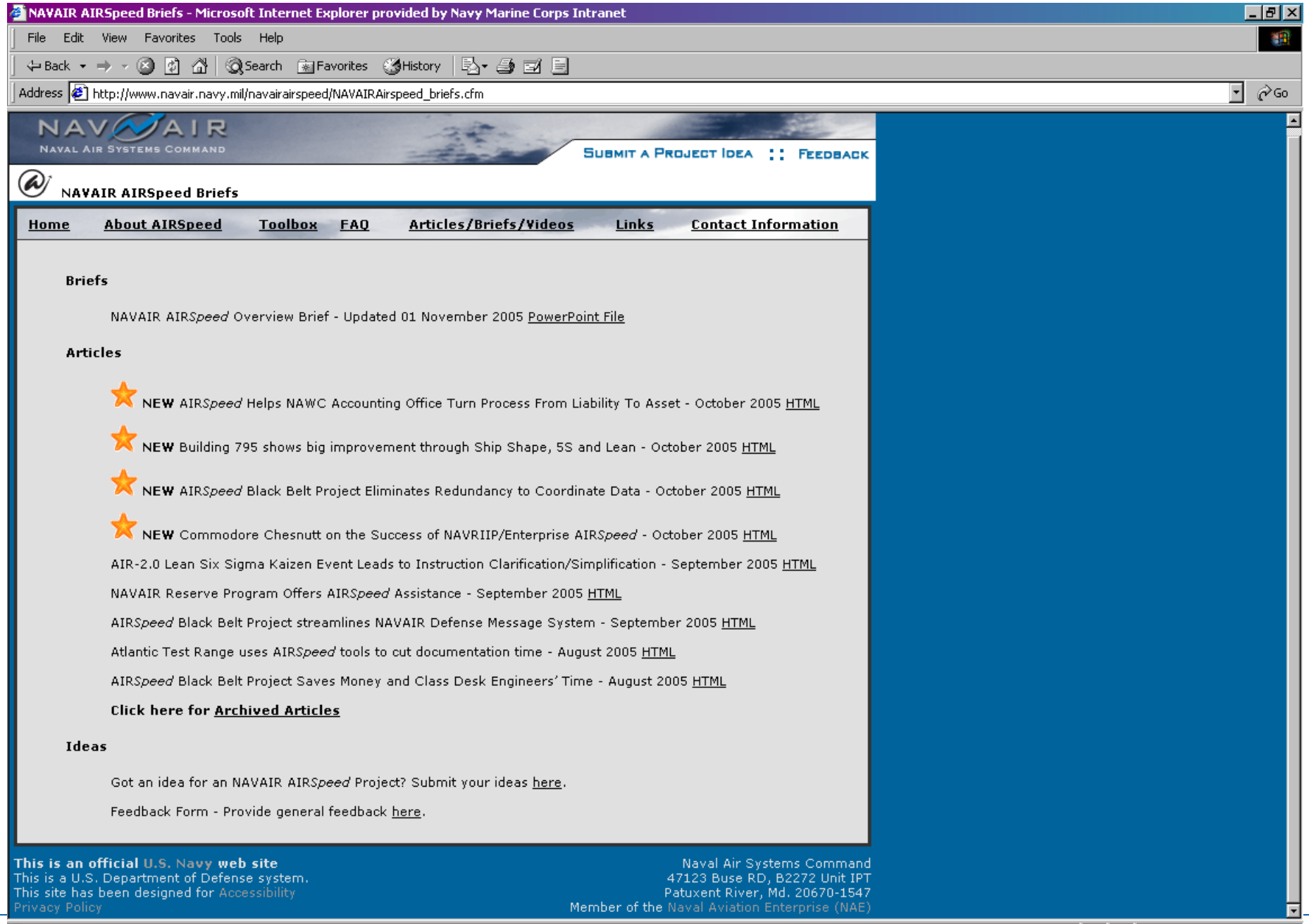
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